Message

From: chaochen25@comcast.net [chaochen25@comcast.net]
Sent: 6/2/2013 3:57:48 PM
To: Bussard, David [Bussard.David@epa.gov]
CC: Jinot, Jennifer [Jinot.Jennifer@epa.gov]; Subramaniam, Ravi [Subramaniam.Ravi@epa.gov]
Subject: Re: Kenny Crump thoughts on bottom up
Attachments: Bussard.docx

David:

Please see the attached file that should help to illustrate my points. I can only send it as an attachment in order to preserve the math notations. I hope it is helpful.

Chao

----- Original Message -----
From: "David Bussard" <Bussard.David@epa.gov>
To: "Chao Chen" <ChaoChen25@comcast.net>, "Ravi Subramaniam" <Subramaniam.Ravi@epa.gov>
Cc: "Jennifer Jinot" <Jinot.Jennifer@epa.gov>
Sent: Saturday, June 1, 2013 6:12:40 PM
Subject: Re: Kenny Crump thoughts on bottom up

I think the B-Up approach could under-estimate slope at zero external dose anytime the dr curve has an increasing slope - not just when there is a hockey-stick. The hockey-stick is just a more pronounced case.

Kenny could have mentioned dose additive aty because it is one reason to assume a nonzero slope is likely at zero external dose.

I do think a very general critique would be the best starting point if it can be done. Especially if it could be done elegently and clearly (like Kenny's early papers on why upperbound on slope was approx linear).

David

From: chaochen25@comcast.net
Sent: Thursday, May 30, 2013 9:36:35 PM
To: Subramaniam, Ravi
Cc: Jinot, Jennifer; Bussard, David
Subject: Re: Kenny Crump thoughts on bottom up

Ravi:

I missed the first day presentation because I could not get registered after I received your message.

While in principle I am inclined to agree with Kenny that a general paper is more appropriate when the bottom-up approach is at issue, but I am also concerned that Kenny may not be aware of the slippery nature of this issue, giving the fact that the issue is almost inseparable from formaldehyde data. The formaldehyde data suggest a hockey-stick dose-response relationship with a long pedal and short stick. This is important because such a dose-response function is not differential at the "bent point" at which a slope cannot be defined; if a slope is artificially derived using the left-hand side data then it will under estimate the slope in the right-hand side as David had pointed out before. I am not sure what Kenny had in mind when he mentioned "background additive". He seems to assume that a real dose-response function is always smooth (i.e., differentiable at all dose levels). This assumption is reasonable when there is only one background dose 0 but the issue could become slippery when someone begins to say that is not what he is talking about (I guess that you already have tasted something similar in Starr presentation). As a suggestion, if we want to write a paper criticizing the B-U approach, we may use a title such as "B-U approach is not well-defined under a hockey-stick dose-response function".

Chao

----- Original Message -----
From: "Ravi Subramaniam" <Subramaniam.Ravi@epa.gov>
To: "Jennifer Jinot" <Jinot.Jennifer@epa.gov>, "David Bussard" <Bussard.David@epa.gov>, chaochen25@comcast.net
Sent: Thursday, May 30, 2013 2:49:47 PM
Subject: Kenny Crump thoughts on bottom up

I had a chat with Kenny yesterday to get his opinion on the bottom up approach. He was totally in agreement with David's approach that the straight line cannot be an upper bound at zero endogenous dose and that it is not consistent with the addivity to background effects concept that gives rise to local linearity. He had read the paper and was thinking of the need to submit a paper of sorts to point this out. I mentioned to him we had drafted something that included multiple issues and a counter-example. However, he was very opposed to the idea of making this a formaldehyde paper. He would be interested in co-authoring with us only if it is a very general and simple paper that specifically speaks to additivity to background; does not want any of the kinetic issues related to the Starr modeling. I told him I would talk to the group and get back to him.

On a different note, at yesterday's ARA workshop Tom Starr totally misrepresented the counter-example we had worked up but there was no discussion time to call him out on what he showed as "EPA's work".

Ravi.